

United States Department of the Interior Bureau of Land Management

Environmental Assessment MT-010-08-33

Pryor Mountain Wild Horse Range 2008 Gather Plan and *Preliminary* Environmental Assessment (EA)

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BLM/MT/PL-08/12

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TABLE OF CONTENTS

	<u>Page</u>
1.0 BACKGROUND INFORMATION.....	4
1.1 Introduction	
1.2 Location	
1.3 Need For the Proposal	
1.4 Relationship to Planning	
1.5 Issues	
2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES.....	12
3.0 AFFECTED ENVIRONMENT.....	13
4.0 ENVIRONMENTAL CONSEQUENCES.....	14
4.1 Wild Horses	
4.2 Rangeland Health, Vegetation, and Soils	
4.3 Riparian/Wetland Areas and Surface Water Quality	
4.4 Wildlife, including Migratory Birds	
4.5 Special Status Plant and Animal Species	
4.6 Wilderness/Visual Resource Management	
4.7 Noxious and Invasive Plants	
4.8 Cultural and Paleontological Resources	
4.9 Recreation	
5.0 CUMULATIVE IMPACTS.....	28
6.0 MITIGATION and SUGGESTED MONITORING.....	30
7.0 CONSULTATION AND COORDINATION.....	31
6.1 List of Preparers	
6.2 Individuals, Groups and Agencies Consulted	
7.0 REFERENCES CITED.....	31
8.0 LIST OF APPENDICES.....	35
Appendix 1 – Population Model	
Appendix 2 – Standard Operating Procedures	

1.0 BACKGROUND INFORMATION

1.1 Introduction

The Bureau of Land Management (BLM) Billings Field Office (BiFO) proposes to gather and remove wild horses from the Pryor Mountain Wild Horse Range (PMWHR) because it has determined excess wild horses are present on the range. The wild horse gather would be conducted in coordination with the Custer National Forest for removal of wild horses on national forest lands outside the PMWHR. The gather would begin in July 2008 and from three to six weeks. The proposed action should prevent deterioration of the range and help maintain a thriving natural ecological balance and multiple use relationships for one season. The method of capture would be water and bait-trapping using temporary traps of portable panels at or near water sources throughout the PMWHR and/or on adjacent lands. After capture in the trap, horses would be sorted or taken to the Britton Springs administrative site for sorting.

This environmental assessment (EA) has been prepared to analyze the impacts associated with the BLM's proposal to remove excess wild horses.

An appropriate management level (AML) is the number of wild horses (excluding the current year's foal crop), determined through BLM's planning process, to be consistent with the objective of achieving and maintaining a thriving natural ecological balance (TNEB) and multiple-use relationship. The Pryor Mountain Herd Management Plan (HMAP, BLM-MT-PT-84-019-4321/June 1984) and the Billings Resource Area Management Plan (Sept. 28, 1984) established an initial stocking rate for the range at 115-127 wild horses. The AML was revised in July 1992 and set at 85-105 adult horses (MT-025-2-18). BLM's mandate, however, is to manage for healthy, self-sustaining herds on healthy rangelands. The habitat objectives in the HMAP are to manage for a slight upward trend in range health (HMAP, BLM-MT-PT-84-019-4321/June 1984). Cumulative impacts, including weather, drought and grazing, have resulted in the current conditions (described later in this document).

Excess wild horses were last gathered from the PMWHR in 2006 utilizing a bait trapping method. Previous to that, helicopter drive trapping was used in 1997, 2001, and 2003 (Coates-Markle 2006). Before helicopter drive trapping, gathers were conducted almost exclusively on horseback.

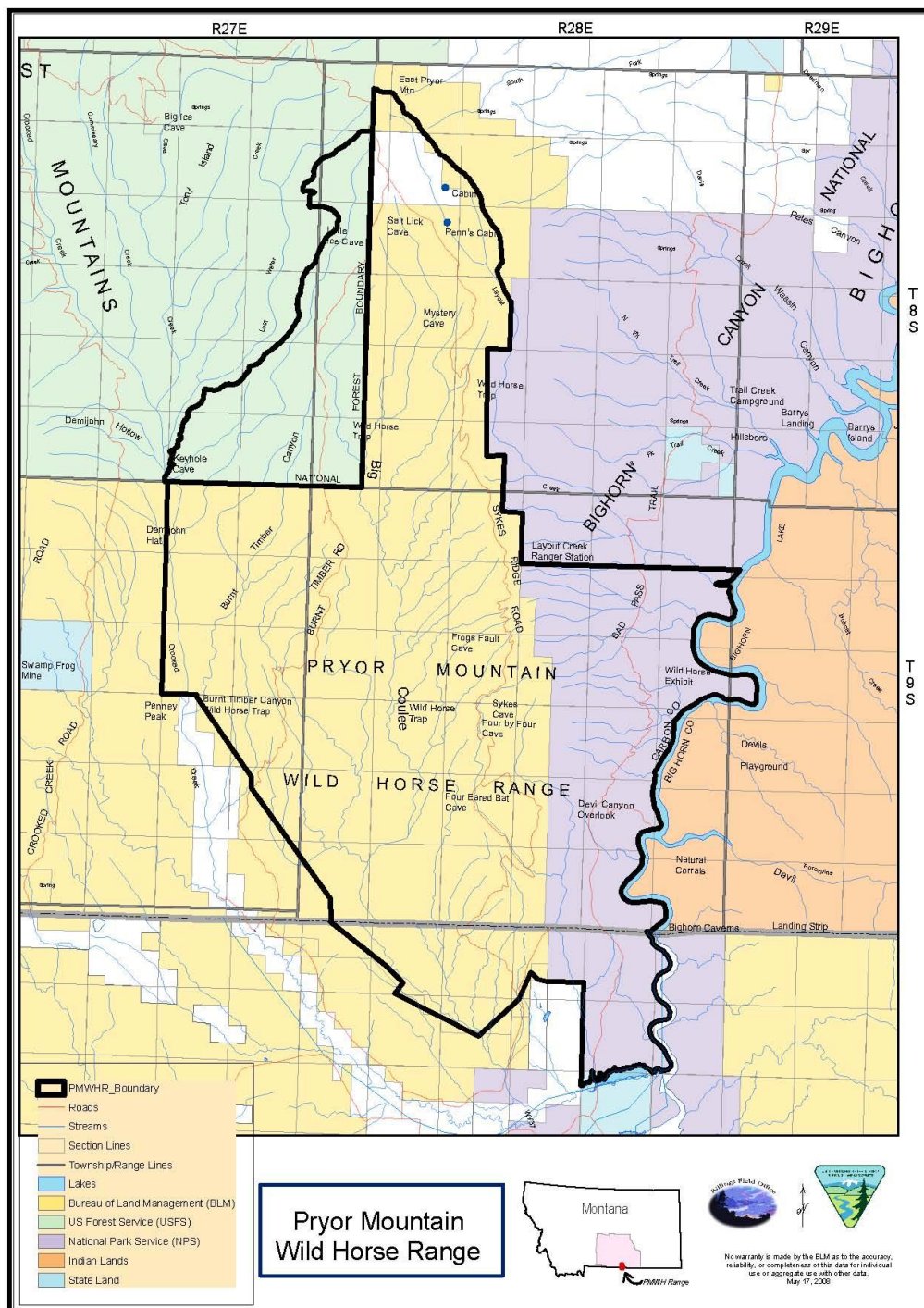
1.2 Location

The project area is located in southeastern Carbon County, Montana, and northern Big Horn County, Wyoming, in the PMWHR and adjacent national forest lands. The area is approximately 50-70 miles south of Billings, Montana, and 10 miles north of Lovell, Wyoming. Elevations range from 3,850 feet to 8,750 feet above sea level. Annual precipitation varies with elevation with six inches of precipitation at the lower elevations to upwards of 20 inches at the higher elevations. Plant communities also vary with elevation and precipitation from cold desert shrub to sub-alpine forests and meadows. Soils vary in depth from shallow (less than ten inches) to 20-40 inches deep depending on location. Water is limited to five perennial water sources

within the PMWHR.

Most of the PMWHR was created by order of the Secretary of the Interior Stewart L. Udall on September 9, 1968. At that time, the PMWHR encompassed 33,600 acres of BLM and National Park Service (NPS) lands in Montana. In 1969, another adjustment occurred, adding 6,400 acres of lands within Wyoming. In December 1971, the Wild Free-Roaming Horses and Burros Act became law. The management and protection of all unclaimed wild horses and burros was delegated to the Secretaries of the Interior and Agriculture. The BLM and Forest Service were charged with administering the Act as outlined in Section 2 of said Act (as the Act was at that time). In 1974 and 1975, the range was expanded pursuant to authority contained in the Wild and Free-Roaming Horses and Burros Act. A joint Forest Service and BLM decision was reached in the 1974 *Pryor Mountain Complex Land Use Decision and BLM Pryor Mountain Complex Management Framework Plan* which analyzed where wild horses were found at the time of the passage of the Act. This joint assessment was based on public involvement, comprehensive inventories, and recommendations from agency specialists. The 1974 joint decision allowed wild horses to be managed within the Lost Water Canyon area (Forest Plan Management Area Q), the Mystic Allotment area, Lower Crooked Creek, and Upper Crooked Creek (BLM). Adjustment to the range occurred in 1984 with the temporary inclusion of the Sorenson Extension (using two five-year special use permits) from the Bighorn Canyon National Recreation Area (BCNRA) and closure of the administrative pastures. In 1990, the last adjustment occurred when the Sorenson Extension was not reauthorized by BCNRA. This resulted in the present boundary which encompasses more than 38,000 acres.

Map 1. Pryor Mountain Wild Horse Range



1.3 Need for the Proposal

BLM has determined there are both an excess wild horses on the PMWHR and wild horses residing outside the PMWHR. This determination was made by correlating census data with vegetation monitoring data to determine the level of wild horse use. The data shows that the PMWHR does not have the capacity to sustain the current wild horse population over the longterm. This EA's Proposed Action is needed to restore wild horse herd numbers to levels more consistent with the AML and remove wild horses from areas outside the PMWHR. The proposed action would help to achieve a thriving natural ecological balance while maintaining multiple use relationships.

Since 1996, the Pryor Mountain wild horse herd has averaged 160 horses. A 2007 aerial census showed the Pryor herd consisted of approximately 170 wild horses, excluding the current foal crop, with approximately 40 of those wild horses residing outside the PMWHR. The Natural Resource Conservation Service's (NRCS) *Pryor Mountain Wild Horse Range Survey and Assessment* (2004) and the *Interagency Pryor Mountain Wild Horse Range Evaluation* (February 2008) documented the occurrence of resource damage in the low elevation desert areas and sub-alpine meadows of the PMWHR (see Photo 1). Such resource damage is likely to continue unless immediate action is taken. A shift toward a downward trend in ecological condition was documented for the low elevation areas of BLM and NPS lands in 2007. Heavy utilization continues to be documented.



Photo 1.

The 2008 evaluation recommended an AML of 92 to 117 wild horses, excluding the current year's foal crop. The recommendation was based upon carrying capacity calculations computed from the comparison of census data with measured utilization with a desired utilization of 45 percent. The evaluation affirms that the existing AML of 85-105 horses is still appropriate.

The area has experienced years of drought with only four of 12 years with above average precipitation levels. With the excess wild horses allowed to remain on the PMWHR during drought years, the deterioration of the range has been magnified that otherwise would have occurred at a slower rate. Removing both the excess wild horses and the horses residing outside the PMWHR is necessary to restore and maintain a thriving natural ecological balance, prevent the range from deterioration, and maintain the multiple use relationships for one season.

During winter and spring of 2008, there has been a decline in the wild horses' body condition (see Photo 2). The combination of excess wild horses with a cold winter and late spring has reduced the available forage for wild horses. Removal of excess wild horses would provide more forage for the remaining population.

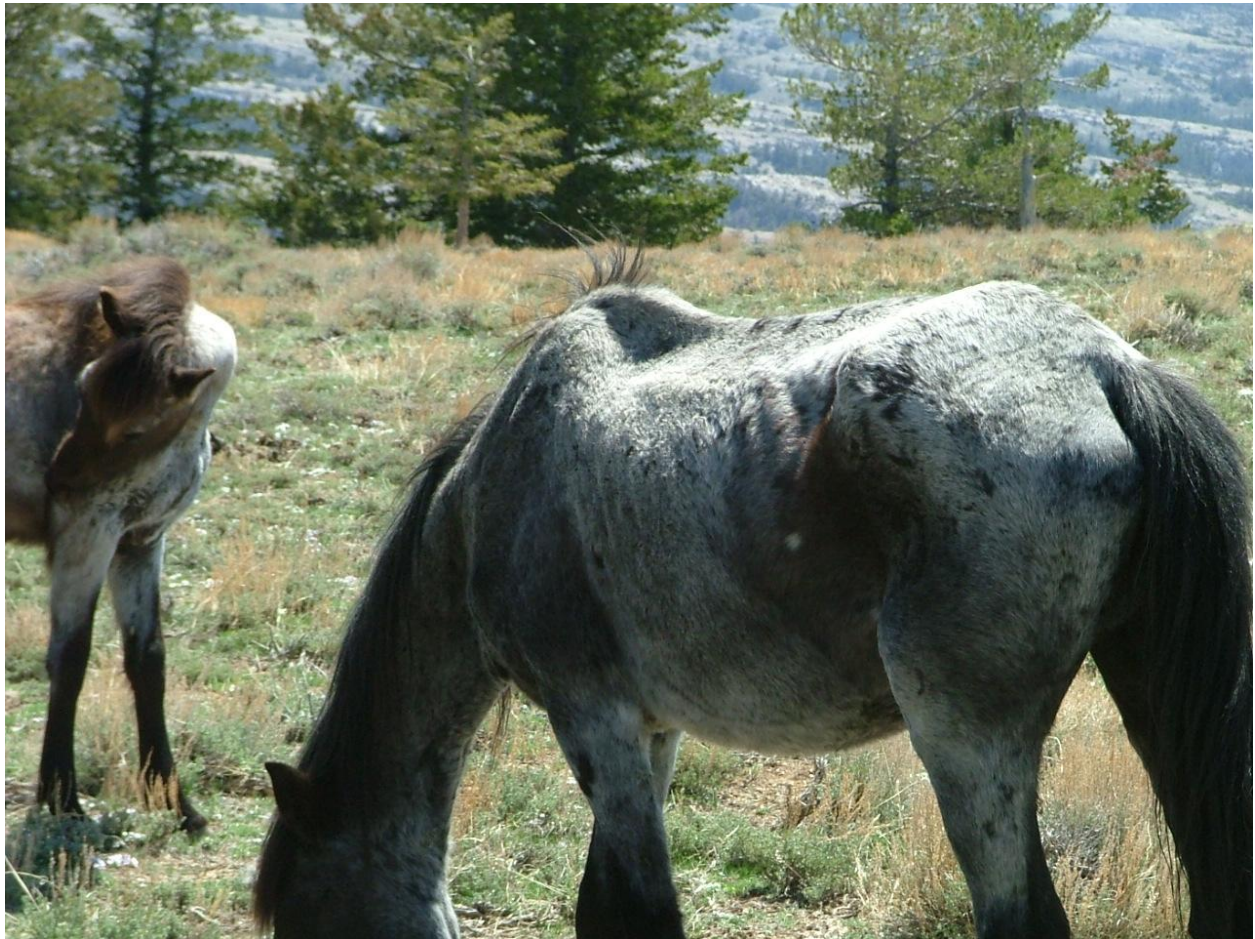


Photo 2.

1.4 Relationship to Planning

The proposed population controls is in conformance with the Billings Resource Management Plan Final EIS (1984) Record of Decision (ROD) objectives of managing a balance between a healthy population of wild horses and improvements in range condition, wildlife habitat, and watershed condition.

The Pryor Mountain Wild Horse Range Herd Management Plan (BLM-MT-PT-84-019-4321/June 1984) and July 1992 revision (MT-025-2-18) provide the authority to manage the horse herd at an established (AML) and make management decisions on the basis of animal type, conformation, color, age, sex, location and free-roaming behavior. The plan directs that management of wild horses be within a balanced program that considers all public values without impairment to the productivity to the land.

The BLM, Custer National Forest (USFS), and the Bighorn Canyon National Recreation Area (NPS) recently signed a Memorandum of Understanding to establish mutual goals and objectives relating to the management of the PMWHR. These agencies agreed that the primary goal with respect to management of the PMWHR is:

“Wild horses are to be managed as free-roaming, self-sustaining populations of healthy animals in a manner that is designed to achieve and maintain a thriving natural ecological balance in keeping with the multiple use management concept for public lands.”

The proposed action is in conformance with the Wild Free-Roaming Horses and Burros Act of 1971 (PL 92-195 as amended) and with all applicable regulations at 43 CFR (Code of Federal Regulations) 4700, 36 CFR 222, and policies outlined by BLM and USFS. The BLM is the lead agency for coordinating and implementing wild horse management in the Pryor Mountains.

The Wild Free-Roaming Horses and Burros Act of 1971 (Public Law 92-195) as amended, Section 3(b) (1), states that the Secretaries of the Interior and Agriculture shall “determine appropriate management levels of wild free-roaming horses and burros on areas of public lands; and determine whether appropriate management levels should be achieved by the removal or destruction of excess animals, or other options (such as sterilization or natural controls on population levels).” According to 43 CFR 4700.0-6, “Wild horses shall be managed as self-sustaining populations of healthy animals in balance with other uses and the productive capacity of their habitat.” In addition, 36 CFR 222.21 states that wild horses within USFS territories be administered to “maintain a thriving ecological balance considering them an integral component of the multiple use resources, and regulating their population and accompanying need for forage and habitat in correlation with uses recognized under the Multiple-Use Sustained Yield Act of 1960.”

Wild horse management is limited to areas inhabited by wild horses at the time of passage of the Act (December 1971). Wild horses that have drifted outside the boundaries of the PMWHR would be removed in accordance with public land laws, rules, regulations, and policy. Management of wild horses “shall be undertaken with the objective of limiting the animals' distribution to herd areas,” which is the “geographic area identified as having been used by a

herd as its habitat in 1971" (43 CFR-4710.4 and 43 CFR 4700.0-5) and confined to wild horse territories per the Wild Free-Roaming Horses and Burros Act of 1971 (36 CFR 222 and Forest Service Manual 2260.3).

1.5 Issues

The PMWHR Draft Evaluation was issued for public review and comment on November 19, 2007. The evaluation process did not establish new goals or objectives. Its purpose was to determine if current uses were in conformance with existing decisions and objectives established in the Billings RMP (1984), Custer National Forest Plan (1987), Bighorn Canyon National Recreation Area laws and policies, and the Pryor Mountain Herd Management Area Plan (1984, 1992).

The BLM asked interested parties to review the draft evaluation and provide additional relevant data, information, or analysis that could be used to either measure objectives and provide technical recommendations for meeting or making progress toward decisions and objectives. Two parties provided data that was incorporated into the evaluation. Eighty-seven parties provided comments and/or technical recommendations for management of the PMWHR. Four parties provided separate interpretations of the analysis for calculating the AML. The comments were incorporated into the Final Pryor Mountain Wild Horse Range Evaluation (February 2008).

The public's comments on the PMWHR Draft Evaluation were used to identify issues related to the potential effects of the proposed action. An issue is an unresolved conflict or public concern over a potential effect on a physical, biological, social or economic resource as a result of the proposed action and alternatives to it. An issue is not an activity; rather, the projected effects of the proposed activity create the issue (cause and effect). The following issues have been identified at this time:

Issue: Ecological Condition

Deteriorating range and forest conditions associated with past management practices have led to the current situation on the ground (2008 PMWHR Evaluation). The BLM and USFS are prohibited from allowing a "deterioration of the range associated with an over-population of wild horses" as described in the Wild Free-Roaming Horses and Burros Act as amended. The NPS is also mandated to manage sustainable lands. The proposed action is developed in order to rectify this deficiency for one season.

Issue: Appropriate Management Level (AML)

AML is based upon the carrying capacity of the habitat as identified by the Wild and Free-Roaming Horses and Burros Act. The BLM and USFS can only establish an AML based upon the carrying capacity of the land together with the consideration of preserving multiple use relationships. The establishment of the AML is not intended to be a one-time determination but rather an adaptive process in which adjustments are made based upon environmental changes and management needs. Establishment of the AML is a separate process and is not done as part of a wild horse gather. In order to manage for a herd number other than AML, the BLM is required to analyze the effects through the planning process.

Issue: Genetic Viability

BLM interpreted this issue to mean a concern for wild horse health. The issue is being addressed in that context.

Minimum viable population (MVP) size is a moving target. Part of the hypothesis behind MVP is that populations are not manipulated by human intervention, and it's generally about 100 years before a population is at risk due to a loss of genetic variation. A minimum effective population size for mammals (N_e) is sometimes identified as one-third of individuals within a population, but a true N_e is the total animals actually breeding. Scribner, Meffe, and Groom (2006) in "Principles of Conservation Biology" state, "While the loss of genetic diversity is a concern, it is important to recognize that the rate of loss is usually slower than the time frame in which management actions can occur."

Small isolated populations tend to be at a higher level of risk associated with random events; small populations living on poor or degraded habitats are at an even higher risk because they lack the nutrition necessary to withstand these events. Managing wild horses in a manner designed to maintain a thriving natural ecological balance within the productive capacity of the habitat is mandated by the Act.

Research with domestic breeding animals has shown that reduced genetic diversity and inbreeding may result when less than 50 breeding adults are contributing to the next generation (Soule, 1980). This effective genetic population size is a difficult number to determine. PMWHR baseline genetic diversity has been determined by the analysis of blood samples collected during gathers in 1991, 1994, 1997 and 2001. According to these studies (Cothran, 2002; Cothran and Singer, 2000), current levels of genetic diversity within the Pryor Mountain herd are relatively high for a wild horse population, are well above the mean for domestic breeds, and have been steady during the period of the studies. Any significant loss of diversity over time can be detected by evaluating an inbreeding coefficient which measures observed diversity in the herd in comparison to what might be expected. Presently, there is no evidence of inbreeding in the Pryor herd (Coates-Markle, 2006).

In the past, BLM has managed the herd to conserve the core breeding component, removing only younger animals for the adoption program. The latter is consistent with national selective removal policy for the BLM Wild Horse and Burro program. In addition, fertility control has been applied only temporarily to younger mares that have not yet entered the breeding stage or older mares that have already contributed to the genetics of the herd.

In addition to maintaining the core breeding age horses within the herd, there are other management strategies that may be used to sustain diversity including: skewing the sex ratio in favor of males (increasing the number of breeding males) and the introduction of one to two young mares from outside the herd every generation (BLM Wild Horse and Burro Population Viability Forum Recommendations, 1999).

Issue: Range Expansion

Wild horses can only be managed on areas of public lands where they were known to exist in 1971, at the time of the passage of the Act. Designation of where wild horses will be managed is made in resource management plans and forest plans. Therefore, this issue is beyond the scope of the purpose and need. There are some areas currently closed to wild horse use that could potentially be opened in a resource management plan. These include the Administrative Pastures and Crooked Creek Natural Area. The acquisition or lease of private lands could be pursued and areas added within Bighorn Canyon National Recreation Area. However, there is no proposal to open the Administrative Pastures or Crooked Creek Natural Area, and there is no proposal to acquire or lease private lands or to use additional areas within the BCNRA.

2.0 DESCRIPTION of the PROPOSED ACTION and ALTERNATIVES**2.1 Proposed Action**

The BLM proposes to remove up to 38 wild horses from the PMWHR and adjacent national forest lands in the summer of 2008. The action is in coordination with the Custer National Forest for the removal of wild horses on lands outside the PMWHR. The proposed action would consist of capturing numerous family groups and selectively removing primarily young animals from the 2006 and 2007 foal crops. If horses of this age are not able to be captured in sufficient numbers to meet the objective, older horses would be captured. Of the animals removed, the sex ratio would be approximately 60 percent females and 40 percent males in order to balance the sex ratio for the entire herd. Harem stallions or core breeding-age mares (six to ten years old) would not be removed from the herd. The post-gather population of approximately 130 wild horses would still be above AML.

Herd health and characteristics data would be collected as part of continued monitoring of the wild horse herd. Genetic samples would be taken as part of the continued monitoring of herd health and to track genetic variation.

Multiple capture sites (traps) would be used to capture the wild horses. The trapping would consist of portable panel pens set up either at water sources or near water sources. Hay would be used to attract horses to the area. Once a band of horses or individuals were in the trap, the gate would be closed by BLM personnel. Animals identified for removal would be sorted at the trap site and transported to Britton Springs. If the animals were not able to be sorted at the trap, the entire band would be transported to Britton Springs. Any animals not identified for removal would be released back onto the range.

Trap sites would not be set up until appropriate site-specific clearance and review for cultural and species of concern is conducted. Capture sites would be located in previously disturbed areas. All trap sites would be recorded with global positioning system equipment and given to the weed coordinator. The areas would be monitored for weeds over the next several years. All capture and handling activities (including capture site selections) would be conducted in accordance with the standard operating procedures (SOPs) found in Appendix II.

2.2. No Action Alternative – Continuation of Existing Management

The no action alternative is required by the National Environmental Policy Act (NEPA) to provide a baseline for impact analysis.

Under this alternative, gathering and removing animals would be deferred, and direct management of the wild horse populations in the Pryor Mountain Wild Horse Range and adjacent lands would be postponed. No significant progress toward meeting rangeland health standards would be made. Wild horse populations would continue to increase. A management plan to reduce herd numbers would be evaluated and implemented at a later time. The BLM would continue vegetation and population monitoring.

2.3 Alternatives Considered but Eliminated from Further Analysis

2.3.1 Use of Fertility Control on All Ages of Wild Mares to Suppress Herd Growth Rates

Under this alternative, all mares would receive fertility control primers (as necessary) and annual boosters. Applying fertility control during the summer months has a tendency to reduce the effectiveness of the vaccine. These are issues that are still being addressed with ongoing research. Currently a decision is in place to apply fertility control through 2010, thus the use of fertility control has already been addressed. This alternative was therefore considered but eliminated from further analysis because it did not meet the need for the action.

2.3.2 Large-Scale Gather and Selective Removal of Wild Horses for Population Control

Under this alternative, the herd would undergo a helicopter gather and capture of the entire population in order to selectively remove about 70 horses. This would immediately reduce the herd size to about 100 adult horses. Estimated costs for a removal of this type and scale would be higher than for a smaller scale bait-trapping effort, even though it would take less time. This alternative was considered but eliminated from further analysis due to budgetary constraints.

3.0 AFFECTED ENVIRONMENT

This chapter describes the affected environment and will assess the environmental impacts on the components of the human environment either affected or potentially affected by the proposed action and alternatives.

The following resources or issues are either not present or if present, are determined not to be affected or impacted by the proposed or alternative actions and will not be discussed further in this EA: Environmental Justice, Prime or Unique Farmlands, Floodplains, Native American Religious Concerns, Water Quality (Surface or Ground Water), Wild and Scenic Rivers, Fisheries Habitat, and Livestock Grazing.

3.1 Pryor Mountain Wild Horse Range and Adjacent Lands

The area is located in southeastern Carbon County, Montana, and extends into northern Big Horn County, Wyoming. The PMWHR encompasses about 39,650 acres and includes BLM, NPS-BCNRA, Custer National Forest (USFS) and private lands. The range is approximately 13 miles north of Lovell, Wyoming.

The area varies in environment and elevation from a sagebrush/salt-shrub dominated cold desert (six inches mean annual precipitation) at 3,850 feet in Wyoming, to a subalpine setting with fir trees and open meadows (27 inches mean annual precipitation) in Montana at about 8,750 feet. The topography is highly variable being characterized by deep, steep-walled canyons, isolated grassy plateaus and foothill slopes. The climate is typical cold desert and can be highly variable.

Soils which characterize the range are shallow to moderately deep, loamy, calcareous, moderately alkaline, and a mixture of limestone, sandstone and shale. Due to the young, fragile nature of the soils throughout the horse range, erosion occurs quite easily. Environmental influences, both manmade and natural, have therefore contributed to much erosion and soil loss on the range. This, along with the high lime content, limits the productivity of the soils.

Natural topographical barriers (westside-Crooked Creek, eastside-Bighorn Canyon), as well as manmade barriers (fence lines to the north and south), restrict the majority of horses to the available range. Otherwise, the Pryor herd freely roams throughout the range, largely unrestricted by internal fences. Seasonal harem movement typically results in horses distributed throughout the lower and middle elevations in the winter and primarily in the upper elevations in the summer. In the last decade, several harems and bachelors have been using adjacent national forest upper-elevation lands from mid-summer through early fall. In February 2008, during a helicopter census approximately 40 wild horses were observed where Crooked Creek and Sage Creek roads intersect.

4.0 ENVIRONMENTAL CONSEQUENCES

The following critical or other elements of the human environment are present and may be affected by the proposed action or the alternatives. The affected environment is described for the reader to be able to understand the impact analysis.

The affected environment of each alternative was considered and analyzed by a multi-disciplinary team as documented in the List of Preparers. Certain resources are protected by specific laws, regulations, or policies (e.g., Executive Orders). BLM refers to these resources as “Critical Elements of the Human Environment” and addresses them in all EAs. These Critical Elements that are identified below as being present and potentially affected are analyzed further in this chapter. The affected environment and environmental impacts are described for all resources, including Critical Elements, which are potentially affected by the proposed action.

Table 1 - Critical Elements

CRITICAL ELEMENTS		
Determination*	Resource	Rationale for Determination
NI	Air Quality	Vehicle emissions and project related surface disturbance would be inconsequential from this action.
NI	Areas of Critical Environmental Concern	The East Pryor Mountains were designated as an ACEC in March 1999 to conserve the area for wild horses, paleontological values, recreational use, and fish and wildlife habitat. The proposed action would have no impact on these values.
NI	Cultural Resources	See analysis below.
NP	Environmental Justice	The proposed action would have no effect on minority or economically disadvantaged people or populations
NP	Farmlands (Prime or Unique)	There are no prime or unique farmlands within the area.
NP	Floodplains	There are no floodplains within the area.
PI	Invasive, Non-native Species	Tamarisk (saltcedar) occurs sporadically in the low elevation areas of the range. All coulees in the low elevations, in addition to Cottonwood Spring, have tamarisk. Spotted knapweed is along the entire stretch of Burnt Timber (Tillet Ridge) road. Cheatgrass is widespread in the low elevation areas especially Big Coulee and along Sykes Ridge with sporadic occurrences on Burnt Timber. Halogeton is very common along the south entrance of the horse range and adjacent range lands. Mustards are widespread in the low elevation areas. Russian olive occurs at Cottonwood spring.
NP	Native American Religious Concerns	Although some traditional cultural properties occur within the project area, no Native American Religious Concerns are known in the area, and none have been noted by tribal authorities. Should recommended inventories or future consultations with tribal authorities reveal the existence of such sensitive properties, appropriate mitigation and/or protection measures would be undertaken.
NP	Threatened, Endangered or Candidate Plant Species	Only BLM and USFS sensitive species are present, see impacts/mitigation
NP	Threatened, Endangered or Candidate Animal Species	On USFS portions of the range, formerly unoccupied habitat has been designated for the Canada lynx. State and agency Sensitive Species are present on BLM portions of the range; a site-specific survey would be completed before any action occurs.
NP	Wastes (hazardous or solid)	There are no hazardous or solid wastes located within the planning area.
NP	Water Quality (drinking/ground)	The proposed action would have no affect on ground or drinking water.
PI	Wetlands/Riparian Zones	Crooked Creek is within the planning area and could be affected by the proposed action. Cottonwood Spring would be affected and Krueger pond would be affected. See analysis below.
NP	Wild and Scenic Rivers	There are no Wild and Scenic Rivers located within the project area.

CRITICAL ELEMENTS		
Determination*	Resource	Rationale for Determination
NI	Wilderness	The BLM is prohibited from taking any actions within or adjacent to wilderness study areas that would impair the wilderness characteristics or prevent an area from potentially being designated as wilderness. Actions could have minor, shortterm impacts on wilderness attributes, but the effects would not be irreversible or irretrievable. If desired, these unnatural features could be removed.
<p>*</p> <p>NP = not present in the area impacted by the proposed or alternative actions</p> <p>NI = present, but not affected to a degree that detailed analysis is required</p> <p>PI = present with potential for impact.</p>		

4.1 Wild Horses

The origin of the wild horses in the PMWHR is not entirely known. There is much supposition as to their origin. Many claim the horses are descendents of animals the Crow Indians obtained from the Spanish or other tribes in contact with the Spanish. The Crow Indians were known to have horses by the 1700s and to inhabit the Pryor Mountains before European settlement. Others claim the horses have been there forever. The trapper William Hamilton explored the Pryor Mountains in 1848 and did not note the presence of wild horses (Hall, 1972). By the early 1900s, wild horses within the Bighorn Basin were well documented. Most likely, the wild free-roaming horses inhabiting the PMWHR are descendents of numerous founding stocks. The most recent genetic tests conducted by Dr. Gus Cothran concluded the Pryor horses are descendents of New World “Spanish” breeds (saddle-type horses) and related to European “Spanish” breeds. Some of the Pryor horses carry a rare allele variant Qac that is traced back to original New World “Spanish” type horses that were developed from the original Spanish and Portuguese (Iberian) horses brought to the Americas. The Pryor horses carry no genetic markers that other horse breeds don’t carry.

Environmental Impacts

Assumptions for analysis: Impact analysis assumes that a 100 percent capture rate would be attained for removal purposes. The population model (Appendix I) is for illustration and alternative comparison purposes only and may not necessarily reflect actual populations or outcomes of management actions.

Proposed Action – Under the proposed action, excess wild horses within the PMWHR and adjacent lands would be removed. This would improve herd health and eliminate conflict with other users. Less competition for forage and water resources would reduce stress and promote healthier animals. The proposed action would also allow for the continued collection of information on herd characteristics, determination of herd health through direct examination of animals, and collect genetic samples for monitoring of genetic variation. The action would relieve pressure on the resource for one season, but would not ensure AML is obtained the following year.

Population modeling illustrates that the average wild horse population size of the median of 100 trials would be 187 wild horses. Modeling also indicates that the population after the gather would not put the population at risk of catastrophic loss or “crash” (Appendix I).

Population-wide impacts can occur during or immediately following implementation of the proposed action. These include the displacement of bands during capture and the associated re-dispersal, modification of herd demographics (age and sex ratios), temporary separation of members of individual bands of horses, reestablishment of bands following release, and the removal of animals from the population. With the exception of changes to herd demographics, direct population wide impacts over the last 20 years have proven to be temporary in nature with most, if not all, impacts disappearing within hours to several days of release.

The proposed action would use established procedures for determining what selective removal criteria is warranted for the herd. This flexible procedure allows for correction of any discrepancies in herd demographics observed during the gather that may predispose a population to increased chances for catastrophic impacts. The standard for selection also minimizes the possibility for development of future negative age or sex-based effects to the population. The effect of removing wild horses from the population is not expected to have a negative impact on herd dynamics or population variables because the selection criteria for removal ensures a healthy population structure is maintained.

Impacts to individual animals may occur as a result of stress associated with the gather, capture, processing, and transportation of animals. The intensity of these impacts varies by individual and is indicated by behaviors ranging from nervous agitation to physical distress. Mortality to individuals from this impact is infrequent but can occur. Other impacts to individual wild horses include separation of members of individual bands and removal of animals from the population.

Indirect impacts can occur to horses after the initial stress event and may include increased social displacement or increased conflict between studs. These impacts are known to occur intermittently during wild horse gather operations. Traumatic injuries may occur and typically involve biting and/or kicking bruises, which do not break the skin.

No Action Alternative – Under the no action alternative, excess wild horses would not be removed from the PMWHR. The animals would not be subject to the individual direct or indirect impacts as a result of a gather operation this summer. However, individuals in the herd would be subject to more stress and possible death as a result of increased competition for water and forage as the herd population grows.

Wild horses are a long-lived species with high survival rates. Predation and disease do not substantially regulate wild horse population levels. This would lead to a steady increase in wild horse numbers, and the carrying capacity of the range would continue to be exceeded. The consequences of exceeding the established AML and the carrying capacity of the range would be increased risk to both rangeland and horse herd health. Individual horses would be at risk of death by starvation and lack of water. The population of wild horses would compete for the

available water and forage resources, affecting mares and foals most severely. Social stress would increase. Fighting among stud horses would increase as they protect their position at water sources; such fighting could result in injuries and death to other horses. The areas closest to the water would experience severe utilization and degradation. Over time, the animals would deteriorate in body condition as a result of declining forage availability and the increasing distance needed to travel to forage. Many horses, especially foals and mares, would likely die during the winter if average snowfall levels are received.

As populations increase beyond the capacity of the habitat, more bands of horses would leave the boundaries of the PMWHR seeking forage and water. This in turn may put them at risk in new and unfamiliar country and conflict with licensed users. The health of the wild horse herd population would be reduced, the condition of the range would deteriorate, and other range users would be impacted. This alternative would not achieve the stated objectives for wild horse herd management areas, which are to “prevent the range from deterioration associated with overpopulation,” and “preserve and maintain a thriving natural ecological balance and multiple use relationship in that area.”

To facilitate comparison of alternatives, the no action alternative was also modeled for ten years. The average of 100 population modeling trials indicates that if the current wild horse population continues to grow without a removal at this time, the median population size would be 287 wild horses (Appendix I).

4.2. Rangeland Health, Vegetation, and Soils

Affected Environment

The PMWHR is located in southeastern Carbon County, Montana, and northern Big Horn County, Wyoming. Elevations range from 3,850 feet to 8,750 feet above sea level. Annual precipitation varies with elevation with six inches of precipitation in the lower elevations to upwards of twenty inches in the alpine high elevation. Plant communities also vary with elevation and precipitation from cold desert shrub to sub-alpine forests and meadows. Soils vary in depth from shallow (less than ten inches) to 20-40 inches deep depending on site locations and position on the landscape. There are five perennial water sources within the PMWHR.

The PMWHR is within two Major Land Resource Areas (MLRA)--MLRA 32 Northern Intermountain Desertic Basins and MLRA 43A Northern Rocky Mountains (Natural Resource Conservation Service, 2006). The average annual precipitation in most parts of the basins is six to 12 inches. It is as high as 22 inches in the higher elevation areas of the basins. The maximum precipitation from frontal storms occur in spring and fall. The surrounding mountain ranges block many of the regional precipitation events. The average annual temperature is 39 to 48 degrees F. The temperature can vary widely within short periods due to the drainage of cooler mountain air into the basins. The freeze-free period averages 145 days and ranges from 110 to 180 days.

This area supports shrub-grass vegetation. Big sagebrush, Gardner's saltbush, rhizomatous wheatgrasses, Indian ricegrass, and needle and thread are the dominant species. Black sage, Gardner's saltbush, and bluebunch wheatgrass are common on shallow soils in the uplands.

This area is also in the northern part of the Northern Rocky Mountains. Douglas fir, lodgepole pine, subalpine fir, limber pine, and juniper are the dominant overstory species, depending on precipitation, temperature, elevation, and landform aspect. The understory vegetation varies, also depending on climatic and landform factors.

Large areas of the PMWHR are experiencing a downward trend in ecological condition due to the excess of wild horses. The population is beyond the capacity of the habitat to sustain the numbers in balance with the available resources. The PMWHR Evaluation (2008) documented this measured trend in the low elevation desert areas of the wild horse range. The mountain meadows are also in poor ecological condition with an inverse proportion of succulents to grasses. Drought, coupled with a wild horse population above the AML, has magnified the range deterioration. At the same time, areas within the wild horse range that have very little water and have received very little horse, improved in ecological condition.

Environmental Impacts

Proposed Action – Removing excess wild horses would make progress towards achieving a thriving natural ecological balance for one season. Implementation of the proposed action would reduce the PMWHR wild horse population to levels closer to the AML. It would reduce stress on vegetative communities and be in compliance with the Wild Free-Roaming Horses and Burros Act, Standards for Rangeland Health, and land use plan management objectives. Rangeland health and vegetative resources would improve with the reduced population. Vegetative species would experience a smaller area of over-utilization by wild horses, which would lead to healthier, more vigorous forage plants and plant communities. This would result in an increase in forage availability, vegetation density, vigor, productivity, cover, and plant reproduction. Plant communities would become more resilient to disturbances such as wildfire, drought, and grazing.

Overall, soil conditions would improve after wild horse numbers are reduced. Less soil compaction would occur in riparian areas where the soils are most susceptible. Compression impacts to biological soil crusts from horses would be lessened over the area, and crust cover on the highly calcareous soils would increase. Following wild horse removal, increased vegetative and biological soil crust cover would reduce wind and water erosion.

Impacts to vegetation and soils with implementation of the proposed action would include disturbance of native vegetation immediately in and around temporary trap sites and holding and processing facilities. Impacts would be by vehicle traffic and the hoof action of penned horses and would be locally severe in the immediate vicinity of the corrals or holding facilities. Generally, these activity sites would be small (less than one-half acre) in size. Soil compaction, localized wind erosion, and destruction of biological soil crusts, where present, would occur at the trap sites. Since most trap sites and holding facilities would be re-used during recurring wild

horse gather operations, any impacts would remain site-specific and isolated in nature. In addition, most trap sites or holding facilities are selected to enable easy access by transportation vehicles and logistical support equipment and would generally be adjacent to or on roads, pullouts, water haul sites, or other flat spots that were previously disturbed. Vehicles used in the horse gather would also cause soil compaction and increased erosion in a small area. By adhering to the SOPs (Appendix II), adverse impacts to soils would be minimized.

No Action Alternative – Under the no action alternative, wild horse populations would continue to grow. Increased horse use throughout the PMWHR would adversely impact soils and vegetation health, especially around riparian resources. As native plant health deteriorates and plants are lost, soil erosion would increase. Continued heavy wild horse use, especially around water sources, would cause further compaction, reduced infiltration, increased runoff and erosion, and loss of biological soil crusts. Compaction caused impacts would be greatest on moist soils and soils with few surface coarse fragments. The greatest disturbance impacts to crusts would occur when the soils are dry and on highly calcareous sites. The shallow soils typical of this region cannot tolerate much loss without losing productivity and reducing the ability to be re-vegetated with native plants. Invasive, non-native plant species would increase and invade new areas following increased soil disturbance and reduced native plant vigor and abundance. Wild horses likely transport weed propagules, and this transport would increase as horse numbers increase. This would lead to both a shift in plant composition towards weedy species and an irreplaceable loss of topsoil and productivity due to erosion. With the no action alternative, the severe localized trampling associated with trap sites would not occur, but this alternative would not make progress towards achieving and maintaining a thriving natural ecological balance.

4.3 Noxious and Invasive Plants

Affected Environment

Noxious weeds known to exist within the area are Russian knapweed along the Burnt Timber road and tamarisk (salt cedar) along low elevation coulees and riparian zones occurs.

Invasive plants include cheatgrass, mustards, and halogeton. These plants occur primarily in the low elevation areas and in isolated occurrences on mid-slope areas.

Environmental Impacts

Proposed Action – The proposed gather may promote the spread of existing noxious or invasive weed species. This could occur if vehicles drive through infestations and spread seed into previously weed-free areas. Certified weed-free hay would be used for bait-trapping and feeding captured horses. If noxious weeds are found, the location of the facilities would be moved. Any off-road equipment exposed to weed infestations would be cleaned before moving into weed-free areas. All trap sites, holding facilities, and camping areas on public lands would be monitored for weeds during the next several years.

No Action Alternative – Under this alternative, the wild horse gather would not take place at this time. The likelihood of noxious weeds being spread by gather operations would not exist. However, continued overgrazing of the present plant communities could lead to an expansion of noxious weeds and invasive non-native species due to increased wild horse numbers.

4.4 Riparian/Wetland Areas and Surface Water Quality

Affected Environment

There are limited riparian areas within or adjacent to the PMWHR. Crooked Creek is available to wild horses on BLM lands on the west side of the range above private property holdings. Cottonwood Spring, Little Sykes Spring, and the seep off of Bad Pass are located in Wyoming. These are small springs with little riparian potential yet extremely important due to the limited amount of riparian habitat. On the BCNRA, the primary riparian areas are Crooked Creek Bay and Layout Creek.

Environmental Impacts

Proposed Action – Temporary trap sites and holding/processing facilities may be located within or adjacent to riparian areas. Riparian areas are very limited and have some impact from wild horses. Hoof action on the soil around unimproved springs and streambanks would be lessened, which would lead to increased streambank stability and improved riparian habitat conditions. Improved riparian areas would dissipate stream energy associated with high flows and filter sediment that would result in some associated improvements in water quality. There would also be a reduction in hoof action on upland habitats and reduced competition for available water sources.

No Action Alternative – Wild horse populations would continue to grow. Increased wild horse use throughout the area would adversely impact the few riparian resources present and their associated surface waters. As native plant health deteriorates and plants are lost, soil erosion would increase. With the no action alternative, the severe localized trampling associated with trap sites would not occur, but this alternative would not make progress towards achieving and maintaining a thriving natural ecological balance.

4.5 Wildlife, Including Migratory Birds

Affected Environment

The primary big game species found in the PMWHR are mule deer, Rocky Mountain bighorn sheep, elk, and black bear. Mule deer are the most abundant of these species and most widely distributed. The sagebrush, juniper/mountain mahogany belt at lower elevations in the southern foothills is considered crucial mule deer winter range. The most recent counts of bighorn sheep estimated populations in the Pryors at 160 animals. Elk do not utilize the area on a regular basis. The elk primarily utilize the national forest to the west and north, but have occasionally been observed in the spring and summer on the meadows on the north end of PMWHR. Black bear

are abundant in the northcentral portions of PMWHR where the terrain is rugged and forested. Mountain lions have also been observed on the PMWHR.

The Pryor Mountains support the most diverse bat fauna in Montana. Ten bat species have been documented and the potential exists for additional species to be present (Hendricks, P., C. Currier and J. Carlson, 2004), (Bats of the Billings Field Office in south-central Montana, with Emphasis on the Pryor Mountains), and (Montana Natural Heritage Program, Helena, MT 19 pp. and appendices.)

The gray wolf has been reported in the area north of the PMWHR.

Upland game birds include blue grouse, greater sage-grouse, and ring-necked pheasant. Blue grouse occur in the timbered portions of the PMWHR. Great sage-grouse may occur in the southern and eastern part of the PMWHR. Pheasants occur in the southern area near cultivated fields. None of these species are considered abundant.

Neotropical migratory bird use is heaviest during spring and summer months. Nesting usually occurs in late May, June, and early July depending on elevation.

Environmental Impacts

Proposed Action – Individual animals of all species may be disturbed or displaced during gather operations. Small mammals, birds, and reptiles would be displaced at trap sites, but this would only be for a few days at each trap site. There would be no impact to animal populations as a result of gather operations.

Because the gather would be done during the summer, there would be no impact to breeding and nesting sage grouse, raptors, and migratory birds.

Removing excess wild horses from the PMWHR and adjacent areas would result in reduced competition between wild horses and wildlife, especially large mammals, for available forage and water resources. Managing wild horses at the AML for one season would result in improved habitat conditions for all species of wildlife by increasing herbaceous vegetative cover in the uplands and improving riparian vegetation and water quality at springs and seeps.

No Action Alternative – Individual animals would not be disturbed or displaced under the no action alternative. Competition between terrestrial wildlife and wild horses for forage is minimal. Competition at water resources increase as wild horse numbers continue to grow above AML. Wild horses are aggressive around water sources. Some animals may not be able to compete, which could lead to the death of individual animals. Wildlife habitat conditions would deteriorate as wild horse numbers above AML reduce herbaceous vegetative cover. This could result in lower nesting success for migratory birds.

4.6 Special Status Plant and Animal Species (federally listed, proposed, or candidate threatened or endangered species; State listed species; and BLM sensitive species)

Affected Environment

Timbered areas within the national forest boundary in the Pryor Mountains are designated as unoccupied Canada lynx habitat. This does not include any designated or proposed lynx critical habitat. There are no known threatened and endangered (T&E) species or their habitat in the Pryor Mountains. Recently, the peregrine falcon has been delisted from T&E species status.

Several BLM and Montana state sensitive species occur in the area. These include the peregrine falcon, a possible gray wolf occurrence, Yellowstone cutthroat trout in Crooked Creek, and spotted bat (*Eudermis maculatum*), pallid bat (*Antrozous pallidus*), and Townsend's big-eared bat (*Plecotus townsendi*). USFS sensitive species include long-eared myotis (*Myotis erotis*) and Baird's sparrow (*Ammodramus bairdii*).

Resource decisions from this project, in combination with other past, present, and reasonably foreseeable actions to produce cumulative impacts to threatened, endangered, or sensitive wildlife species are not likely to result in any cumulative impacts to sensitive species.

Fifteen special status species plants occur in the PMWHR. All are categorized as Bureau Sensitive Species and one as both BLM and USFS sensitive (*Shoshonea*). There are no known or suspected federally listed plant species in the horse range. The majority of the special status species are found in the Pryor Mountain foothills, with only five of the species occurring in the higher elevations of the horse range.

Environmental Impacts

Proposed Action –Trap sites and holding corrals would not be located where sensitive plant and animal species are known to occur. There would be no impact to populations of special status species as a result of gather operations.

Removing excess wild horses from the PMWHR and managing wild horses at AML for one season would result in improved habitat conditions for all special status animal species by increasing herbaceous vegetative cover in the uplands and improving riparian vegetation and water quality in springs and seeps.

No Action Alternative – Individual animals would not be disturbed or displaced because gather operations would not occur under the no action alternative. Habitat conditions for all special status animal species would continue to deteriorate as wild horse numbers above the AML reduce herbaceous vegetative cover.

4.7 Wilderness

Affected Environment

Three BLM areas and one NPS area partially within the wild horse range were recommended for wilderness in August 1991 and December 1981. The recommendations followed a wilderness study process that considered resource values, present and projected future uses, public input, manageability as wilderness, environmental consequences of designating or not designating the areas as wilderness, and mineral surveys. As a result, the following wilderness study areas (WSAs) continue to be managed so as not to impair the wilderness values identified in the study: Burnt Timber Canyon WSA, Pryor Mountain WSA, Big Horn Tack-On WSA, and Bighorn Canyon National Recreation Area WSA. WSA designation automatically defaults to a Class I visual resource management (VRM) classification. Class one VRM does not allow for management actions that would impair the viewshed.

There are 3,430 acres within the Burnt Timber Canyon WSA that were recommended as suitable for wilderness designation. The WSA is bounded by USFS lands on the north, and it adjoins the USFS 9,520-acre Lost Water Canyon WSA. The area encompasses an extremely rugged and isolated portion of Crooked Creek Canyon, which has remained relatively free of modern human influences. The WSA is predominantly natural and offers outstanding opportunities for solitude and primitive recreation.

Burnt Timber Canyon WSA exhibits unique outstanding geologic and scenic values. The major canyon and rugged side canyons cut through several hundred feet to the Pryor Mountain limestone strata. These deep canyons contain numerous caves, rock overhangs, and natural alcoves that provide ample opportunities for exploration.

Canyon bottoms are deep and profusely vegetated. They are difficult to traverse but offer outstanding opportunities for solitude and isolation. The ridges and canyon rims are open and sparsely vegetated. These ridge tops constitute about 10 percent of the total WSA area. The ruggedness of the area provides a real challenge to the foot traveler. Dense canyon-bottom vegetation, steep talus slopes, and steep canyon walls make foot traffic difficult. The WSA has outstanding opportunities for photography, rock climbing, nature study, backpacking, spelunking, and hiking.

The major drainage, Crooked Creek, supports a genetically pure strain of native cutthroat trout. The creek is not considered an outstanding fishery because the trout are small, and dense brush restricts ready stream access; however, the native trout species have a very high intrinsic value. The BLM installed a fish barrier in the upper reaches of Crooked Creek in the summer of 2007 to protect this species.

All but 430 acres of the Burnt Timber WSA lies within the Pryor Mountain Wild Horse Range (PMWHR). The WSA also is inhabited by bighorn sheep, mule deer and black bear; however, big game hunting is quite restricted by topography and dense vegetation.

A portion of the Burnt Timber WSA, the Demi-John Flat Archeological District, is noted for its numerous stone rings and rock cairn alignments, the Tillet Fossil Area/Crooked Creek Natural Area, which has been evaluated as having outstanding interpretive potential, and picturesque geologic formations created by the Crooked Creek drainage.

The rough broken topography precludes most uses, and timber harvesting is not allowed in land-use plan decisions. The decision to protect timber in the WSA is primarily due to topography and limited production. The WSA is rated for having low potential for mineral development, and is rated low to moderate for energy resource potential. No development is projected due to low potential and other resource considerations.

The Pryor Mountain WSA (12,575 acres) includes 4,352 acres in Wyoming. This WSA contains some of the most rugged, isolated portions of the Pryor Mountain Range. The wide expanses and topographic screening in this area offer outstanding wilderness values. This unit is in the heart of the PMWHR, and the supplemental attribute of the free-roaming wild horse herd enhance the wilderness characteristics of the area. Human activity is well-distributed throughout the WSA. Vegetation and topographic screening significantly limit any detracting from the WSA's extensive natural setting.

Topographic features are rough, broken, highly varied, and provide excellent opportunities for isolation and solitude. Elevation changes rapidly within the Pryor Mountain WSA, dropping from 8,400 to 3,800 feet in less than 13 miles. The southern aspect provides a vast panorama. Opportunities for nature photography, rock climbing, hiking, backpacking, nature study, and viewing a variety of multicolored erosional geologic features are outstanding. The WSA contains a wide spectrum of geologic and biotic features, ranging from elements typical of desert environments to those found only in sub-alpine mountainous settings.

Conflicts with other resource uses in the Pryor Mountain WSA are minimal. Topography severely limits any potential cross country vehicle travel. Commercial timber harvesting in the WSA is not allowed. No livestock use is authorized in the WSA nor are there any oil and gas leases. The development potential for petroleum resources is rated low to moderate.

The Big Horn Tack-On WSA and Bighorn Canyon National Recreation Management Area WSA is a narrow strip of land averaging nine miles in length and less than one to two miles in width. It is located between the Sykes Ridge Road on the west and the Bighorn Canyon National Recreation Area powerline access road to the east. On BLM, the area is 2,470 acres with an additional 353 acres in Wyoming. In the BCNRA, the area is 8,101 acres; less than half of that is within the PMWHR.

This WSA is primarily in a natural state with a few dispersed, but fairly well-screened, human intrusions. These consist of uranium exploration pits, a wild horse trap in the northern portion along the west boundary road, vehicle ways, one in the north and one in the south, and the power line on the southeast.

Environmental Impacts

Proposed Action – Temporary impacts to opportunities for solitude could occur during gather operations due to the possible noise of increased vehicle traffic and activity around the WSAs. Those impacts would cease when the gather was completed. No surface impacts within wilderness are anticipated to occur during the gather since all trap sites and holding facilities would be placed outside wilderness, except possibly Cottonwood Spring. Access to Cottonwood Spring would be along Big Coulee. Vehicles would not drive outside the active wash for access and gather operations. The trap would be made with portable panels and have no surface disturbance or permanent features. Wilderness values would be enhanced as Cottonwood Spring gets some relief from wild horse use.

No Action Alternative – No impacts to wilderness due to gather operations would occur. Impacts to wilderness values of naturalness could be threatened through the continued population growth of wild horses. These impacts would result in long term degradation to the natural environment. To some, the sight of heavy horse trails, trampled vegetation and areas of high erosion detract from the wilderness experience.

4.8 Cultural Resources/Paleontological Resources

Affected Environment

The Pryor Mountains contain a rich prehistoric and historic archaeological record. The prehistoric archaeological types of sites located in the Pryor Mountains include, but are not limited to: quarry sites, rock art sites, rock shelter/cave sites, vision quest sites, lithic scatters, rock cairns/rock alignments, tipi rings, drive sites, wooden structure habitation sites, occupation sites, and hunting related sites. The historic archaeological types of sites located in the Pryor Mountains include, but are not limited to: rail lines, lime kilns, ranching-related sites, wooden structure habitation sites (cabins), historic trails, horse traps, homesteads, etc. Traditional cultural properties (TCP) are found throughout the area. The Dryhead Overlook and Sykes Ridge are the primary areas for TCP within the affected environment. These areas have been used for generations by Crow tribal members for traditional uses, ceremonies, and vision quest sites.

Direct impacts that could occur where wild horses concentrate include trampling, chiseling, and churning of site soils, cultural features, and artifacts; artifact breakage; and impacts from standing, leaning, and rubbing against above-ground features, structures, and rock art. Indirect impacts could include soil erosion, gullying, and increased potential for unlawful collection and vandalism. In areas where cultural site presence coincides with areas of wild horse concentration, continued grazing could contribute to substantial ground disturbance and cause cumulative, long term irreversible adverse effects to historic properties.

Environmental Impacts

Proposed Action – No impacts to cultural resources/paleontological resources are anticipated to occur from gather operations since all trap sites and holding facilities would be inventoried to Class III intensive inventory standards for cultural resources prior to set-up. Trap sites and holding facilities would be located on previously disturbed areas. If cultural resources are encountered at proposed trap sites or holding facilities, those locations would not be utilized unless it could be modified to avoid impacts to cultural resources. A district archaeological technician (DAT) would be on-site during the gather to perform any needed cultural resources inventories and monitoring. Once the gather is completed, reduced horse numbers would result in less hoof action around riparian spring areas where cultural resources tend to occur in higher frequency. This could lead to decreased damage to cultural resources by wild horses.

No Action Alternative – Under this alternative, the wild horse gather would not take place and therefore, no trap sites or holding facilities would be constructed. There would be no possibility that cultural resources would be damaged as a result of horse gather operations; however, higher numbers of wild horses above the AML could cause damage to cultural resources due to trampling, especially around water sources, where the occurrence of cultural resources can often be high.

4.9 Recreation

Affected Environment

Recreation-related visitation has been increasing in the Pryor Mountains over the last several years, and that trend is expected to continue. The area is composed of USFS, BLM, and NPS lands. Visitor logs maintained at Penn's Cabin, located on the top of East Pryor Mountain, indicate an increase in visitor use, especially in the past five years. The logs also show an increase in both foreign and domestic visitors. Wild horses can often be seen near the cabin in the summer through early fall.

Recreation opportunities are primarily wild horse viewing during the warmer months of the year, especially during foaling season. Other opportunities include, but are not limited to, bear, deer and small game hunting, hiking, and snowmobiling. Motorized use is limited to designated roads. The area is largely managed for dispersed recreation. Hiking opportunities in the Pryor Mountains are excellent. However, there are no maintained trails for hiking or off-highway vehicle use. Other uses include camping, horseback riding, photography, sightseeing and wildlife viewing. There are several caves, some of which are large enough to explore.

Special recreation permits are becoming more prevalent as more people wish to pay for the opportunity to participate in guided or organized activities on public lands. Wild horse photography tours, viewing tours, and cattle drives are the primary recreation-permitted activities. These activities provide a gateway for future visitation by an ever growing segment of the public.

Environmental Impacts

Proposed Action - Opportunities to view and photograph wild horses would be slightly diminished because excess wild horses would be removed from the range. Opportunities from other recreation activities are expected to stay the same. Gather operations should be completed prior to hunting season, thus eliminating any potential conflicts with sportsmen.

No Action - There would be no impacts to recreational wild horse observation under this alternative. However the view shed may become diminished over time as vegetative and riparian areas become more degraded from excess wild horses.

5.0 CUMULATIVE IMPACTS

Cumulative impacts are impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. The area of cumulative impact analysis is the PMWHR.

According to the 1994 BLM *Guidelines For Assessing and Documenting Cumulative Impacts*, the cumulative analysis should be focused on those issues and resource values identified during scoping that are of major importance. Accordingly, the issues of major importance that are analyzed are maintaining rangeland health and proper management of wild horse.

Past Actions

The PMWHR is unique because a large portion of it was established under two Secretarial Orders in 1968 and 1969 prior to the Wild Free-Roaming Horses and Burros Act. The PMWHR was the second wild horse range established and the first public wild horse range. Herd areas were identified from 1971-1974 as areas occupied by wild horses at the passage of the Act. These areas identified where wild free-roaming horses and burros were “presently” found. Due to this, the wild horse range was able to be expanded beyond the Secretarial Orders’ boundary.

The BLM also moved to long-range planning with the development of resource management plans (RMPs) and environmental impact statements (EISs). These EISs analyzed impacts of the RMPs’ management direction for resources and uses including wild horses, as updated through BLM policies, rangeland program direction, and wild horse program direction. Allocations were made, and range monitoring studies were initiated to determine if objectives were being achieved or if progress toward allotment standards was being made. In the 1984 Billings RMP, the areas where wild horses would be managed were adjusted due to the need have facilities for the management of wild horses. Two administrative pastures were fenced to be used a gather pastures since all wild horse management was relegated to horseback gathers. The PMWHR Herd Management Area Plan was completed in 1984 and adopted the AML that was identified in the Billings RMP. During this time the Sorenson Extension was allowed for wild horse use under two five-year use permits issued to the BLM by the NPS. In 1992, the Sorenson Extension was not renewed. Subsequently, the AML was adjusted to the current level of 85 to 105. At the

same time, the use of helicopters for gather operations was allowed as well as the management of the population as a whole instead of by separate herds.

Due to these laws, planning, and subsequent court decisions, wild horse management has occurred in the PMWHR. Twenty-three gathers have been completed on portions of the PMWHR. Approximately 600 wild horses have been removed from the PMWHR since 1968. Populations are thriving and have not been negatively impacted. An AML determination for the PMWHR was established through BLM planning process and completed in 1992.

Present Actions

Today, the PMWHR and adjacent national forest lands have an estimated population of 165 wild horses. This is 70 horses over the AML. Resource damage is occurring in portions of the range due to excess animals. Current BLM policy is to conduct removals targeting portions of the wild horse population based upon age and allowing the correction of any sex ratio problems that may occur. Further, the BLM's policy is to conduct gathers in order to facilitate a four-year gather cycle. Program goals have expanded beyond establishing a thriving natural ecological balance by AML for individual herds, to include achieving and maintaining healthy, viable, vigorous, and stable populations.

Current mandates prohibit the destruction of healthy animals that are removed or deemed to be excess. Only sick, lame, or dangerous animals can be euthanized, and destruction is no longer used as a population control method. A recent amendment to the Wild Free-Roaming Horses and Burros Act allows the sale of excess wild horses that are over 10 years old or have been offered unsuccessfully for adoption three times. This sale authority has not been fully implemented, thus, facility space and funding for gathers is less available as more unadoptable wild horses are maintained in facilities.

Today, public interest in the welfare and management of wild horses is higher than it has ever been. Many different values pertaining to wild horse management form various perceptions on the management of wild horses. Wild horses are viewed by some as nuisances and by others as living symbols of the pioneer spirit.

The BLM, Forest Service, and NPS completed the PMWHR Evaluation and identified the need to make management adjustments and conduct vegetation treatments to improve watershed health. The evaluation identified management deficiencies that need to be rectified in order to meet land use plan objectives, laws, regulations, and policies. As a result of this process, the PMWHR HMAP was identified as meeting a "Criteria for Revision" from the current HMAP. The Draft HMAP was recently released and proposed to change the way wild horses are managed within the PMWHR.

The focus of wild horse management has also expanded to place more emphasis on achieving rangeland health as described in the Standards for Rangeland Health. Adjustments in numbers, grazing use, and allowable use are based on evaluating progress toward reaching the standards.

Reasonably Foreseeable Future Actions

In the future, the BLM would manage wild horses within the PMWHR in a population range, while maintaining genetic diversity, age structure, and sex ratios. Current policy is to express all future wild horse AMLs as a range, to allow for regular population growth, as well as better management of populations rather than individual here management areas. The BLM is in the process of revising its resource management plan; the revision would analyze wild horse management on a programmatic basis, including areas where wild horses can be managed. Future wild horse management would focus on an integrated ecosystem approach with the basic unit of analysis being the watershed. The BLM would continue to conduct monitoring to assess progress toward meeting rangeland health standards. Wild horses would continue to be a component of the public lands, managed within a multiple use concept.

While no amendments to the Wild and Free-Roaming Horses and Burros Act are anticipated at this time, the Act has been amended three times since 1971. Therefore, there is a potential for amendment as a reasonably foreseeable future action, and such amendment could change the manner in which wild horses are managed.

As the BLM has achieved AML on a bureau-wide basis, gather opportunities and budgets have become less predictable due to full facility space and the feeding of horses. Fertility control should also become more readily available as a management tool, with treatments that last between gather cycles, reducing the need to remove as many wild horses, and possibly extending the time between gathers.

Impacts

Past actions regarding the management of wild horses have resulted in the current wild horse population within the PMWHR. Wild horse management has contributed to the present resource condition and wild horse herd structure within the gather area.

The combination of the past, present, and reasonably foreseeable future actions, along with the proposed action, should result in more stable wild horse populations, healthier rangelands, healthier wild horses, and fewer multiple-use conflicts for one season within the PMWHR Complex.

6.0 MITIGATION and SUGGESTED MONITORING

Proven mitigation and monitoring are incorporated into the proposed action and also through standard operating procedures, which have been developed over time. These SOPs (Appendix II) represent the best methods for reducing impacts associated with gathering, handling, transporting and collecting herd data.

7.0 CONSULTATION and COORDINATION

Public hearings are held annually on a state-wide basis regarding the use of helicopters and motorized vehicles to capture wild horses (or burros). During these meetings, the public is given the opportunity to present new information and to voice any concerns regarding the use of these methods to capture wild horses (or burros).

In January 2008, the BLM mailed out notices asking people to respond by February 1, 2008, regarding their desire to be included in the annual Montana wild horse and burro mailing list for participation in wild horse management activities. A lack of response did not preclude any interested party from being added at a later date. Interested parties are added throughout the year per request.

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APPENDIX I POPULATION MODEL

Population modeling was completed for the PMWHR 2008 Gather Plan and EA in order to demonstrate a likely outcome of the management scenario. The herd was based upon the demographics from the PMWHR Evaluation dated February 2008 (except for the estimated 2008 foal crop because foaling season has not concluded). Survival probabilities were used from data Linda Coates-Markle developed and finalized in 2002. One hundred trials were run, simulating population growth and herd demographics to help simulate the projected herd structure for herd after a gather operation. The computer program used simulates the population dynamics of wild horses. It was written by Dr. Stephen H. Jenkins, Department of Biology, University of Nevada, Reno, under a contract from the National Wild Horse and Burro Program of the Bureau of Land Management and is designed for use in comparing various management strategies for wild horses.

Interpretation of the Model

The estimated population of 170 wild horses is for the entire wild horse population within the Pryor Mountains regardless if the animals are residing within or outside the range. Year one is the baseline starting point for the model and reflects wild horse numbers without fertility control vaccine being applied. In this population modeling, year one would be 2008. Although this management scenario is for one season, subsequent years are calculated out. Year two would be exactly one year in time from the original action, and so forth for years three, four, and five. In this model, year ten is 2018. This is reflected in the Population Size Modeling Table by “Population sizes in 10 years” and in the Growth Rate Modeling Table by “Average growth rate over 10 years.” The Full Modeling Summaries contain tables and graphs directly from the modeling program.

Population Modeling Criteria

The following summarizes the population modeling criteria:

- Starting Year: 2008
- Initial gather year: 2008
- Gather interval: once
- Sex ratio at birth: 50% female-50% male
- Percent of the population that can be gathered: 100%
- Foals are not included in the AML
- Simulations were run for 10 years with 100 trials each
- No fertility control

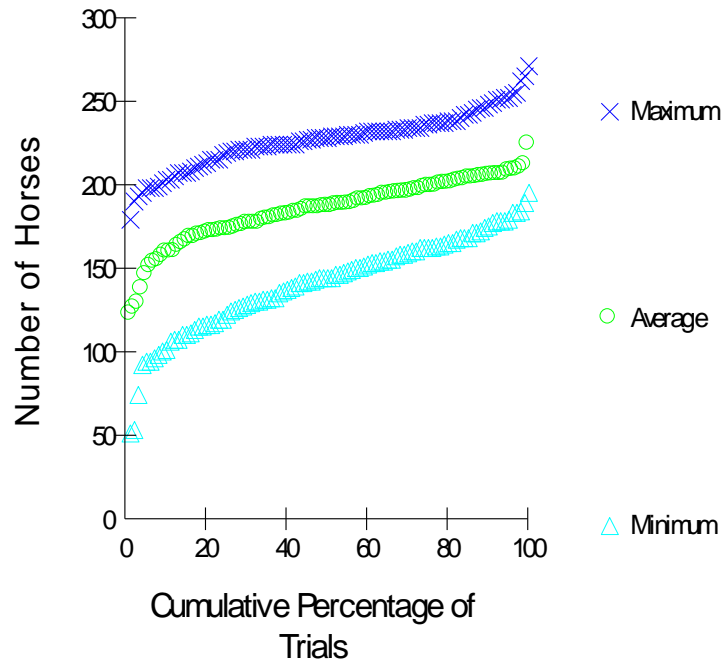
Proposed Action Population Model Table and Graphs

This table compares the projected population size and growth rate after a gather conducted in accordance with the proposed action. The population averages are across all 100 trials. The population model indicates the average population would be 187 wild horses if this action is repeated over ten years.

Population Sizes in 10 Years			
	Minimum	Average	Maximum
Lowest Trial	52	123	180
10th Percentile	104	160	204
25th Percentile	124	174	220
Median Trial	145	187	230
75th Percentile	163	200	238
90th Percentile	177	206	250
Highest Trial	196	225	272

* 0 to 20+ year-old horses

0 to 20+ year-old horses



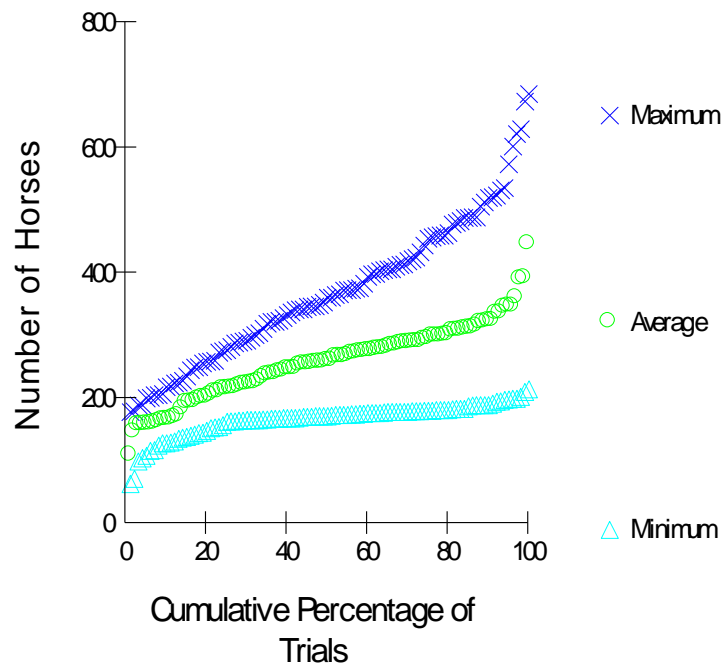
No Action Population Model Table and Graphs

This table compares the projected population size and growth rate without gather conducted in accordance at this time. The population averages are across all 100 trials. The model indicates with no action the population would average 260 wild horses.

Population Sizes in 10 Years*			
	Minimum	Average	Maximum
Lowest Trial	64	109	179
10th Percentile	130	166	220
25th Percentile	164	215	280
Median Trial	172	260	362
75th Percentile	181	297	457
90th Percentile	191	323	522
Highest Trial	215	446	687

* 0 to 20+ year-old horses

0 to 20+ year-old horses



APPENDIX II

Standard Operating Procedures for Wild Horse Gathers

Gathers would be conducted utilizing contractors from the Wild Horse Gathers-Western States Contract or BLM personnel. The following procedures for gathering and handling wild horses would apply whether a contractor or BLM personnel conduct a gather. For helicopter gathers conducted by BLM personnel, gather operations will be conducted in conformance with the *Wild Horse Aviation Management Handbook* (March 2000).

Prior to any gathering operation, the BLM will provide for a pre-capture evaluation of existing conditions in the gather area(s). The evaluation will include animal conditions, prevailing temperatures, drought conditions, soil conditions, road conditions, and a topographic map with wilderness boundaries, the location of fences, other physical barriers, and acceptable trap locations in relation to animal distribution. The evaluation will determine whether the proposed activities will necessitate the presence of a veterinarian during operations. If it is determined that a large number of animals may need to be euthanized or capture operations could be facilitated by a veterinarian, these services would be arranged before the capture would proceed. The contractor will be apprised of all conditions and will be given instructions regarding the capture and handling of animals to ensure their health and welfare is protected.

Trap sites and temporary holding sites will be located to reduce the likelihood of injury and stress to the animals, and to minimize potential damage to the natural resources of the area. These sites would be located on or near existing roads.

The primary capture methods used in the performance of gather operations include:

1. Helicopter Drive Trapping. This capture method involves utilizing a helicopter to herd wild horses into a temporary trap.
2. Helicopter Assisted Roping. This capture method involves utilizing a helicopter to herd wild horses or burros to ropers.
3. Bait Trapping. This capture method involves utilizing bait (e.g., water or feed) to lure wild horses into a temporary trap.

The following procedures and stipulations will be followed to ensure the welfare, safety and humane treatment of wild horses in accordance with the provisions of 43 CFR 4700.

A. Capture Methods used in the Performance of Gather Contract Operations

1. The primary concern of the contractor is the safe and humane handling of all animals captured. All capture attempts shall incorporate the following:

All trap and holding facilities locations must be approved by the contracting officer's representative (COR) and/or the project inspector (PI) prior to construction. The contractor may also be required to change or move trap locations as determined by the

COR/PI. All traps and holding facilities not located on public land must have prior written approval of the landowner.

2. The rate of movement and distance the animals travel shall not exceed limitations set by the COR/PI who will consider terrain, physical barriers, weather, condition of the animals and other factors. Under normal circumstances this travel should not exceed 10 miles and may be much less dependent on existing conditions (i.e., ground conditions, animal health, extreme temperatures [high and low]).
3. All traps, wings, and holding facilities shall be constructed, maintained, and operated to handle the animals in a safe and humane manner and be in accordance with the following:
 - a. Traps and holding facilities shall be constructed of portable panels, the top of which shall not be less than 72 inches high for horses and 60 inches for burros, and the bottom rail of which shall not be more than 12 inches from ground level. All traps and holding facilities shall be oval or round in design.
 - b. All loading chute sides shall be a minimum of six feet high and shall be fully covered with plywood or metal without holes larger than two by four inches.
 - c. All runways shall be a minimum of 30 feet long and a minimum of six feet high for horses and five feet high for burros, and shall be covered with plywood, burlap, plastic snow fence or like material a minimum of one to five feet above ground level for burros and one to six feet for horses. The location of the government-furnished portable fly chute to restrain, age, or provide additional care for the animals shall be placed in the runway in a manner as instructed by or in concurrence with the COR/PI.
 - d. All crowding pens including the gates leading to the runways shall be covered with a material which prevents the animals from seeing out (plywood, burlap, plastic snow fence, etc.) and shall be covered a minimum of one to five feet above ground level for burros and two to six feet for horses.
 - e. All pens and runways used for the movement and handling of animals shall be connected with hinged self-locking or sliding gates.
4. No modification of existing fences will be made without authorization from the COR/PI. The contractor shall be responsible for restoration of any fence modification which he has made.
5. When dust conditions occur within or adjacent to the trap or holding facility, the contractor shall be required to wet down the ground with water.
6. Alternate pens within the holding facility shall be furnished by the contractor to separate

mares or jennies with small foals, sick and injured animals, strays, or other animals the COR determines need to be housed in a separate pen from the other animals. Animals shall be sorted according to age, number, size, temperament, sex, and condition when in the holding facility to minimize, to the extent possible, injury due to fighting and trampling. Under normal conditions, the government will require that animals be restrained for the purpose of determining an animal's age or sex or for other necessary procedures. In these instances, a portable restraining chute may be necessary and will be provided by the government. The contractor shall furnish alternate pens to hold animals if the specific gathering requires that animals be released back into the capture area(s). In areas requiring one or more satellite traps, and where a centralized holding facility is utilized, the contractor may be required to provide additional holding pens to segregate animals transported from remote locations so they may be returned to their traditional ranges. Either segregation or temporary marking and later segregation will be at the discretion of the COR.

7. The contractor shall provide animals held in the traps and/or holding facilities with a continuous supply of fresh clean water at a minimum rate of 10 gallons per animal per day. Animals held for 10 hours or more in the traps or holding facilities shall be provided good quality hay at the rate of not less than two pounds of hay per 100 pounds of estimated body weight per day. An animal held at a temporary holding facility through the night is defined as a horse/burro feed day. An animal that is held for only a portion of a day and is shipped or released does not constitute a feed day.
8. It is the responsibility of the contractor to provide security to prevent loss, injury or death of captured animals until delivery to final destination.
9. The contractor shall restrain sick or injured animals if treatment is necessary. The COR/PI will determine if animals must be euthanized and provide for the destruction of such animals. The contractor may be required to humanely euthanize animals in the field and to dispose of the carcasses as directed by the COR/PI.
10. Animals shall be transported to final their destination from temporary holding facilities within 24 hours after capture unless prior approval is granted by the COR/PI for unusual circumstances. Animals to be released back into the herd management area following gather operations may be held up to 21 days or as directed by the COR/PI. Animals shall not be held in traps and/or temporary holding facilities on days when there is no work being conducted except as specified by the COR/PI. The contractor shall schedule shipments of animals to arrive at final destination between 7:00 a.m. and 4:00 p.m. No shipments shall be scheduled to arrive at final destination on Sunday and federal holidays, unless prior approval has been obtained by the COR. Animals shall not be allowed to remain standing on trucks while not in transport for a combined period of greater than three hours in any 24-hour period. Animals that are to be released back into the capture area may need to be transported back to the original trap site. This determination will be at the discretion of the COR.

B. Capture Methods That May Be Used in the Performance of a Gather

1. Capture attempts may be accomplished by utilizing bait (feed, water, mineral licks) to lure animals into a temporary trap. If the contractor selects this method the following applies:
 - a. Finger gates shall not be constructed of materials such as "T" posts, sharpened willows, etc., that may be injurious to animals.
 - b. All trigger and/or trip gate devices must be approved by the COR/PI prior to capture of animals.
 - c. Traps shall be checked at least once every 10 hours.
2. Capture attempts may be accomplished by utilizing a helicopter to drive animals into a temporary trap. If the contractor selects this method the following applies:
 - a. A minimum of two saddle-horses shall be immediately available at the trap site to accomplish roping if necessary. Roping shall be done as determined by the COR/PI. Under no circumstances shall animals be tied down for more than one-half hour.
 - b. The contractor shall assure that foals shall not be left behind and orphaned.
3. Capture attempts may be accomplished by utilizing a helicopter to drive animals to ropers. If the contractor, with the approval of the COR/PI, selects this method, the following applies:
 - a. Under no circumstances shall animals be tied down for more than one hour.
 - b. The contractor shall assure that foals shall not be left behind or orphaned.
 - c. The rate of movement and distance the animals travel shall not exceed limitations set by the COR/PI who will consider terrain, physical barriers, weather, condition of the animals and other factors.

C. Use of Motorized Equipment

1. All motorized equipment employed in the transportation of captured animals shall be in compliance with appropriate state and federal laws and regulations applicable to the humane transportation of animals. The contractor shall provide the COR/PI with a current safety inspection (less than one year old) for all motorized equipment and tractor-trailers used to transport animals to final destination.
2. All motorized equipment, tractor-trailers, and stock trailers shall be in good repair, of

adequate rated capacity, and operated so as to ensure that captured animals are transported without undue risk or injury.

3. Only tractor-trailers or stock trailers with a covered top shall be allowed for transporting animals from trap site(s) to temporary holding facilities and from temporary holding facilities to final destination(s). Sides or stock racks of all trailers used for transporting animals shall be a minimum height of six feet six inches from the floor. Single deck tractor-trailers 40 feet or longer shall have two partition gates providing three compartments within the trailer to separate animals. Tractor-trailers less than 40 feet shall have at least one partition gate providing two compartments within the trailer to separate the animals. Compartments in all tractor-trailers shall be of equal size plus or minus 10 percent. Each partition shall be a minimum of six feet high and shall have a minimum of a five-foot-wide swinging gate. The use of double deck tractor-trailers is unacceptable and shall not be allowed.
4. All tractor-trailers used to transport animals to final destination(s) shall be equipped with at least one door at the rear end of the trailer which is capable of sliding either horizontally or vertically. The rear door(s) of tractor-trailers and stock trailers must be capable of opening the full width of the trailer. Panels facing the inside of all trailers must be free of sharp edges or holes that could cause injury to the animals. The material facing the inside of all trailers must be strong enough so that the animals cannot push their hooves through the side. Final approval of tractor-trailers and stock trailers used to transport animals shall be held by the COR/PI.
5. Floors of tractor-trailers, stock trailers and loading chutes shall be covered and maintained with wood shavings to prevent the animals from slipping.
6. Animals to be loaded and transported in any trailer shall be as directed by the COR/PI and may include limitations on numbers according to age, size, sex, temperament and animal condition. The following minimum square feet per animal shall be allowed in all trailers:
 - 11 square feet per adult horse (1.4 linear foot in an 8 foot wide trailer);
 - 8 square feet per adult burro (1.0 linear foot in an 8 foot wide trailer);
 - 6 square feet per horse foal (.75 linear foot in an 8 foot wide trailer);
 - 4 square feet per burro foal (.50 linear feet in an 8 foot wide trailer).
7. The COR/PI shall consider the condition and size of the animals, weather conditions, distance to be transported, or other factors when planning for the movement of captured animals. The COR/PI shall provide for any brand and/or inspection services required for the captured animals.
8. If the COR/PI determines that dust conditions are such that the animals could be endangered during transportation, the contractor will be instructed to adjust speed.

D. Safety and Communications

1. The contractor shall have the means to communicate with the COR/PI and all contractor personnel engaged in the capture of wild horses utilizing a VHF/FM transceiver or VHF/FM portable two-way radio. If communications are ineffective the government will take steps necessary to protect the welfare of the animals.
 - a. The proper operation, service, and maintenance of all contractor furnished property is the responsibility of the contractor. The BLM reserves the right to remove from service any contractor personnel or contractor-furnished equipment which, in the opinion of the contracting officer or COR/PI violate contract rules, are unsafe, or otherwise unsatisfactory. In this event, the contractor will be notified in writing to furnish replacement personnel or equipment within 48 hours of notification. All such replacements must be approved in advance of operation by the contracting officer or his/her representative.
 - b. The contractor shall obtain the necessary FCC licenses for the radio system.
 - c. All accidents occurring during the performance of any task order shall be immediately reported to the COR/PI.
2. Should the contractor choose to utilize a helicopter, the following will apply:
 - a. The Contractor must operate in compliance with Federal Aviation Regulations, Part 91. Pilots provided by the contractor shall comply with the contractor's Federal Aviation Certificates, applicable regulations of the state in which the gather is located.
 - b. Fueling operations shall not take place within 1,000 feet of animals.

G. Site Clearances

Personnel working at gather sites will be advised of the illegality of collecting artifacts.

Prior to setting up a trap or temporary holding facility, BLM will conduct all necessary clearances (archaeological, T&E, etc.). All proposed site(s) must be inspected by a government archaeologist. Once archaeological clearance has been obtained, the trap or temporary holding facility may be set up. Said clearance shall be arranged for by the COR, PI, or other BLM employees.

Gather sites and temporary holding facilities would not be constructed on wetlands or riparian zones.

H. Animal Characteristics and Behavior

Releases of wild horses would be near available water. If the area is new to them, a short-term adjustment period may be required while the wild horses become familiar with the new area.

I. Public Participation

Opportunities for public viewing (e.g., media, interested public) of gather operations will be made available to the extent possible; however, the primary considerations will be to protect the health, safety and welfare of the animals being gathered and the personnel involved. The public must adhere to guidance from the on-site BLM representative. It is BLM policy that the public will not be allowed to come into direct contact with wild horses or burros being held in BLM facilities. Only authorized BLM personnel or contractors may enter the corrals or directly handle the animals. The general public may not enter the corrals or directly handle the animals at anytime or for any reason during BLM operations.

J. Responsibility and Lines of Communication

Contracting Officer's Representative/Project Inspector

Jared Bybee

The contracting officer's representatives (CORs) and the project inspectors (PIs) have the direct responsibility to ensure the contractor's compliance with the contract stipulations. Billings Field Manager Jim Sparks will take an active role to ensure that appropriate lines of communication are established between the field, field office, state office, national program office, and BLM holding facility offices. All employees involved in the gathering operations will keep the best interests of the animals at the forefront at all times.

All publicity and public contact and inquiries will be handled through the Billings Field Manager and Montana State Office of External Affairs. These individuals will be the primary contact and will coordinate with the COR on any inquiries.

The COR will coordinate with the contractor and the BLM corrals to ensure animals are being transported from the capture site in a safe and humane manner and are arriving in good condition.

The contract specifications require humane treatment and care of the animals during removal operations. These specifications are designed to minimize the risk of injury and death during and after capture of the animals. The specifications will be vigorously enforced.

Should the contractor show negligence and/or not perform according to contract stipulations, he will be issued written instructions, stop work orders, or defaulted.